

FIG. 1

Cow	: SQAEFDKAAEEVKHDKTK	19	P---	ADEEMLFYSHY	37	TERPGMIDDKGKAKWD	54	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Man	: SQAEFEKAEEVRHDKTK	---	P---	SDEEMLFYCHY	44	TERPGMIDFTCKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Pig	: SQAEFEKAEEVKNDKTK	---	P---	ADDEMLFYSHY	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Dog	: SQAEFDKAAEDVKHDKTK	---	P---	ADDEMLFYSHY	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Rat	: SQADEDKAAEEVKRLKTQ	---	P---	TDEEMLFYSHY	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Mouse	: SQAEFDKAAEEVKRLKTQ	---	P---	TDEEMLFYSHY	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Turtle	: SQAEFDKAAEEVKQLKSQ	---	P---	TDEEMLFYSHY	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Duck	: AEAAFOKAEEVKQLKSQ	---	P---	SDQEMLDVYSHY	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Chicken	: SEAAFOKAEEVKELKSQ	---	P---	TDQEMLDVYSHY	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Fruitfly	: VSEQENAAAEKVKSLTKR	---	P---	SDDEFLQYALF	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Hawkmoth	: LQEQFDQAAASNVRNFKSL	---	P---	SDNDLLELYALF	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Yeast (1)	: VSQLEFEKAEEVKELPTK	---	P---	STDELLELYALF	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Yeast (2)	: VSQLEFEKAEEVKELPTK	---	P---	STDELLELYALF	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
C.elegans (1)	: MTLSEDDAATVKTPTS	---	P---	SNDELLELYALF	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Cotton	: LKEEFEHAEKVKTPAA	---	P---	SNDDMLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Rape seed	: LKEDFEHAEKVKKTAS	---	P---	SNEDLLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Arabidopsis	: LKEEFEHAEKVKNTTEL	---	P---	SNEDLLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Castor bean	: LKEDFEHAEKAKTLPEN	---	T---	TNENKLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Lily	: LKEEFEHAEKAKTLPES	---	T---	SNENKLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Frog (brain)	: PQADEDKAAAGDVKKTK	---	P---	TDDELKELYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Duck (brain)	: HOADEDEAAEEVKTKTR	---	P---	TDEELKELYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Cow (testis)	: QVEFEEMAASAIKQLKG	---	P---	VSDQEKLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Rat (testis)	: SQVEFEEMAASLKLKG	---	P---	LSDQEKMLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Mouse (testis)	: SQVEFEEMAASLKLKG	---	P---	VSDQEKLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
C.elegans (2)	: AQADEFEKAQNLKTKKEE	---	P---	DNDVKLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
C.elegans (3)	: LQEKEDAAVEIIQKPKTG	---	P---	PVATSNQKLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
C.elegans (4)	: LDEQFEAAVWIINALPKNG	---	P---	PIKTSINDQKLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Carp (m)	: SVEEENAAKEKLGALKKD	---	P---	GNEVKLLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Cow (m)	: HETREFEAAVKVIQSLPKNGSFQ	---	P---	TNEMMLKLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80
Arabidopsis (m)	: SAATAFVAAASADRLSQKV	---	P---	SNELQKLYGL	44	TERPGMIDDKGKAKWD	58	AMNELKCTSKEDAMKAY	63	65	67	69	73	77	80

FIG. 2

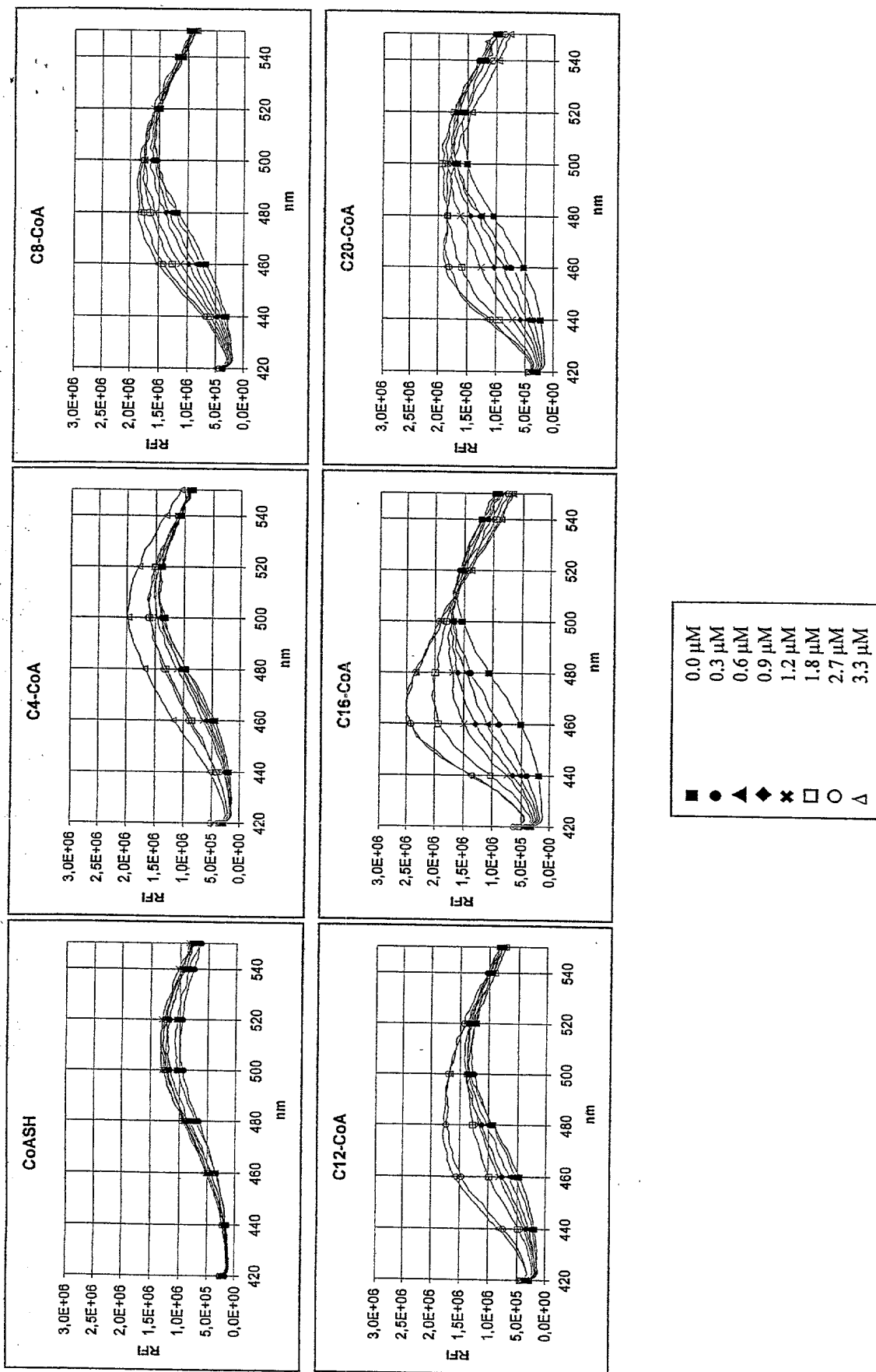
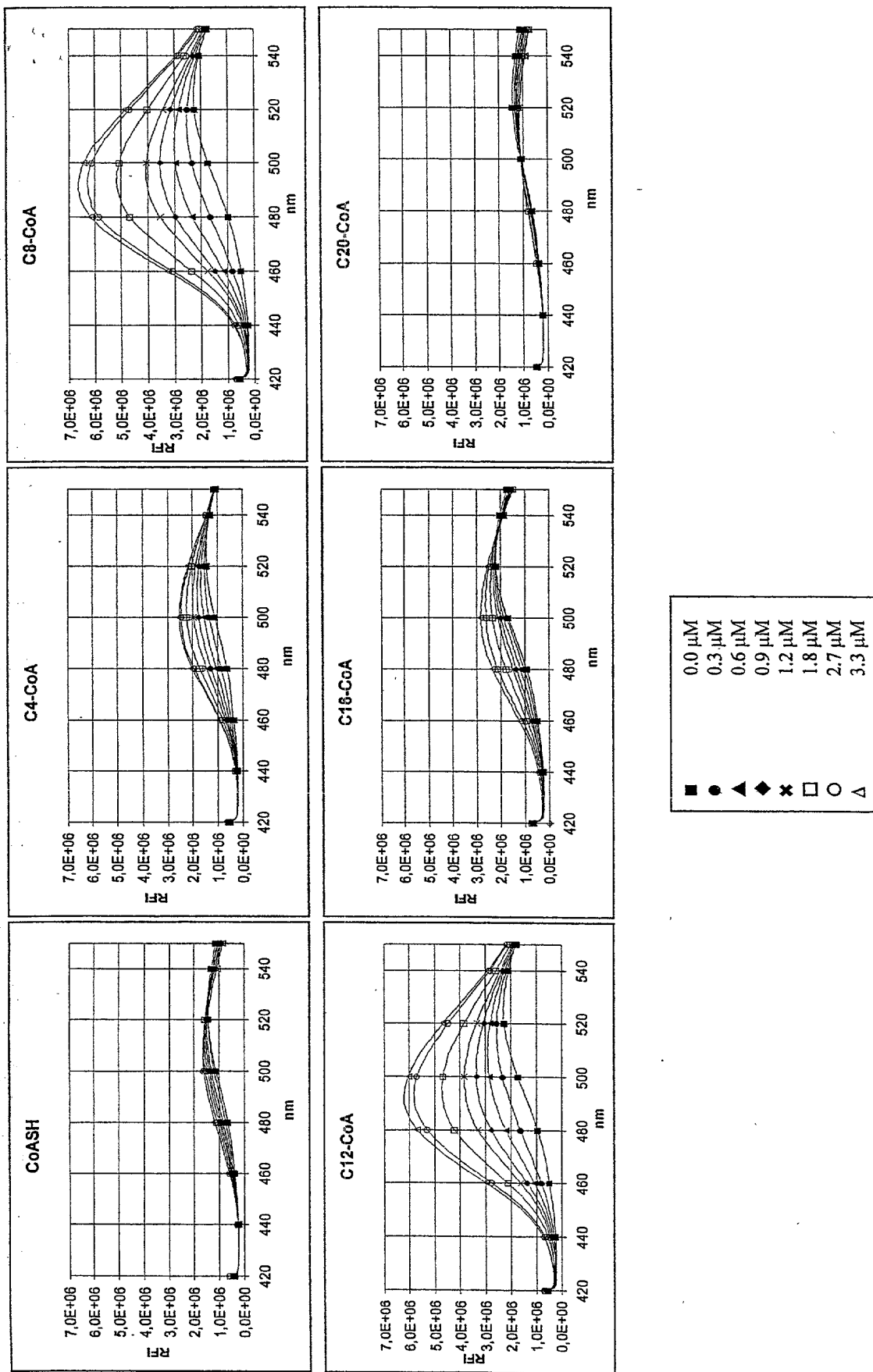
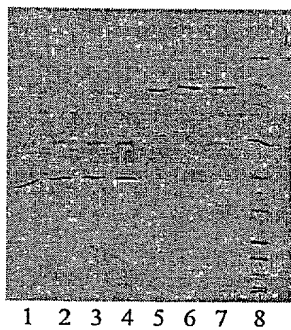


FIG. 3

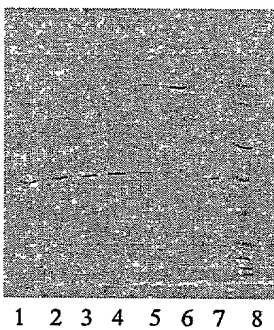


**Figure 4:**

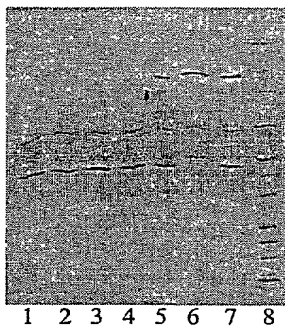
(a): r-bov ACBP



(b): A53C-badan



(c): M24C-badan



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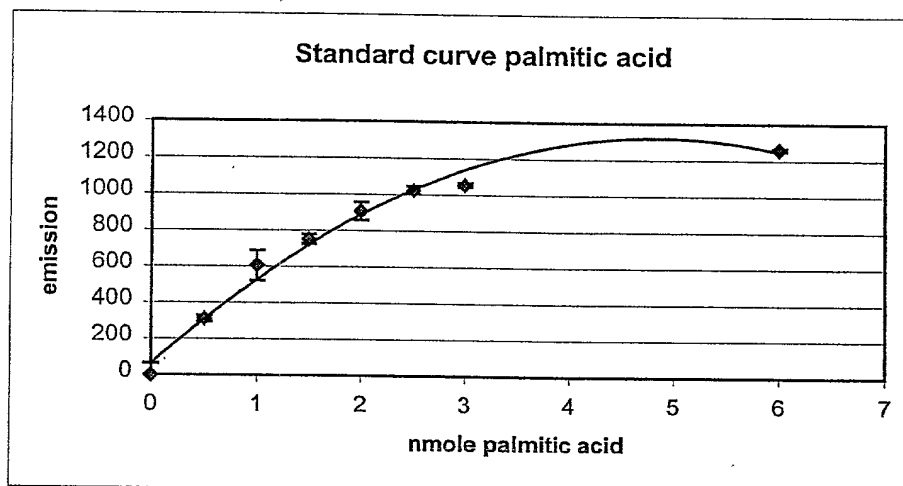


Fig. 5a.

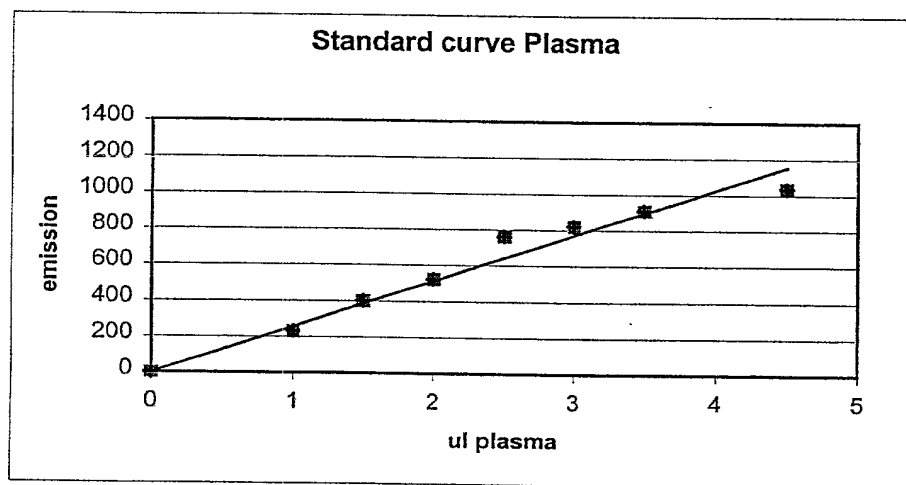


Fig. 5b.

Fig. 6

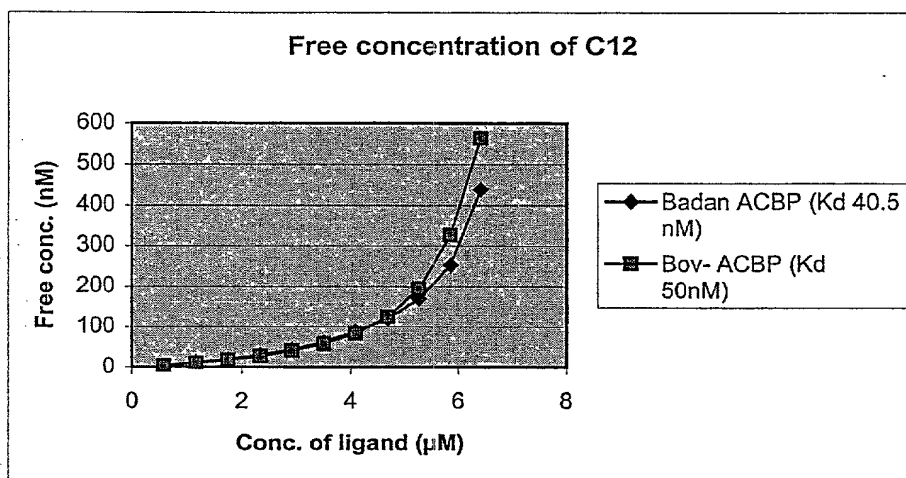
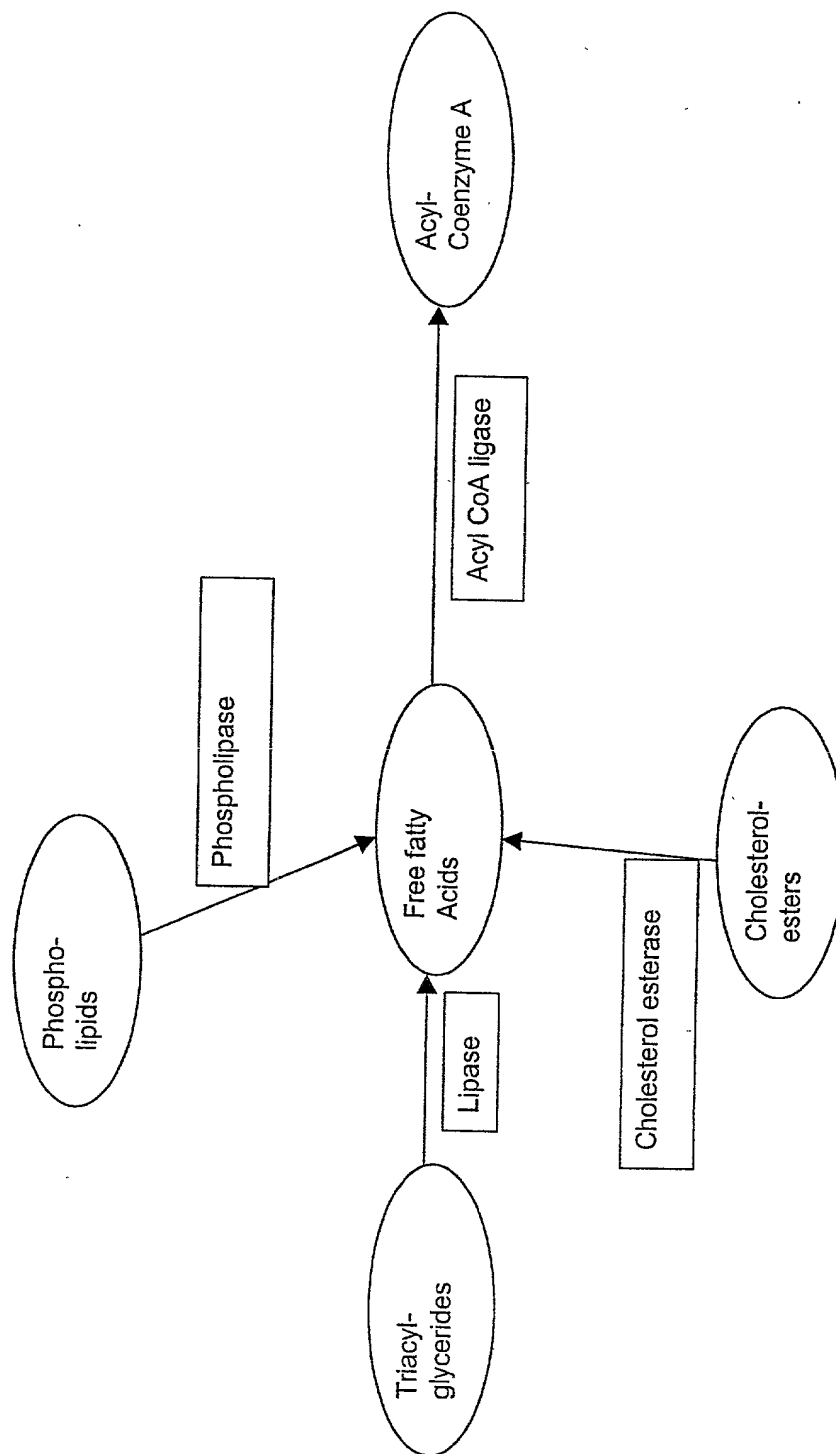


FIG. 7



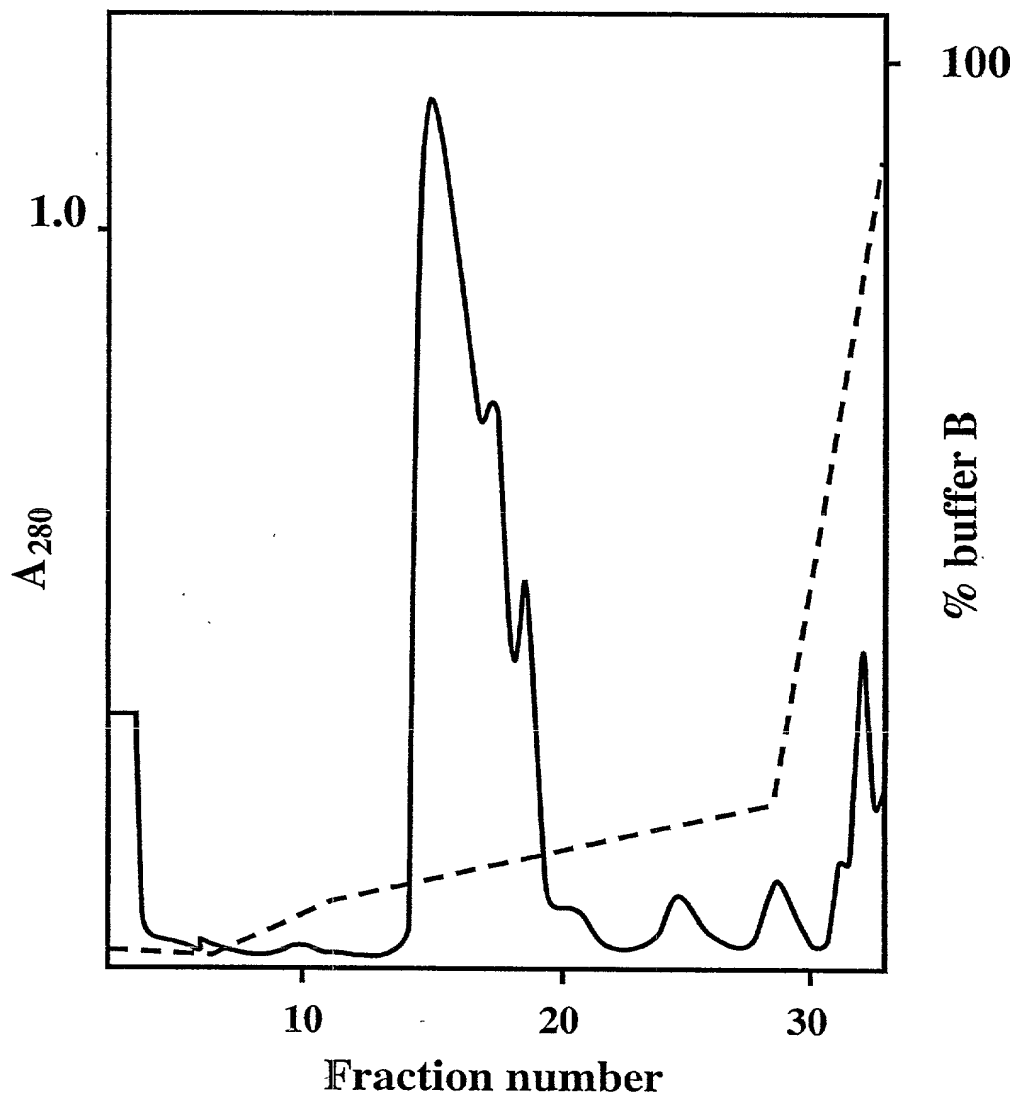


Fig. 8



# HPLC of FACI-24

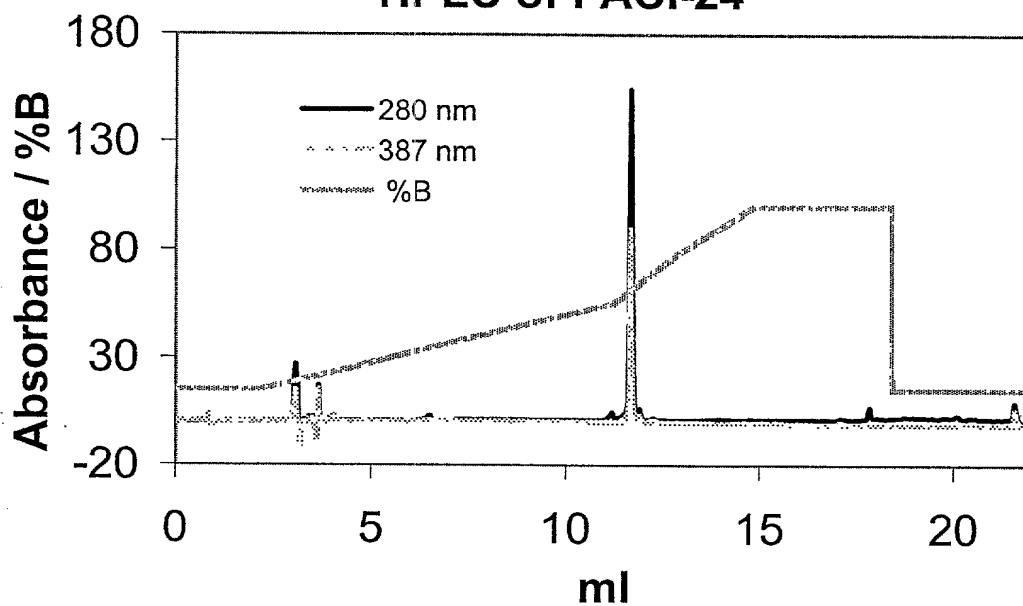


Fig. 9

FACI-24 in response to C16-CoA

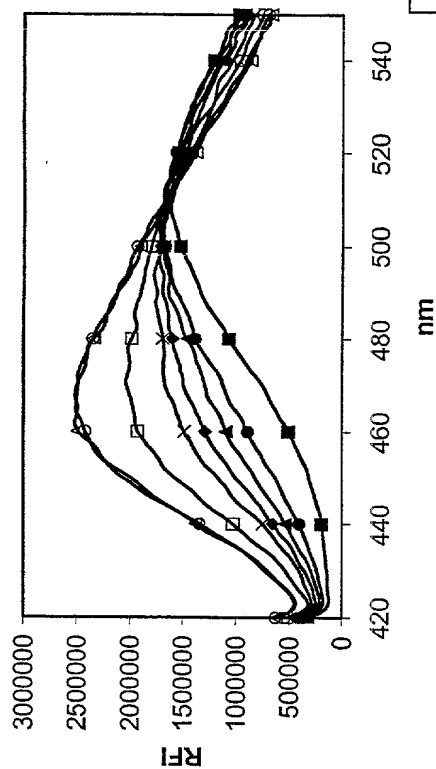


Fig 10 A

FACI-53 in response to C12-CoA

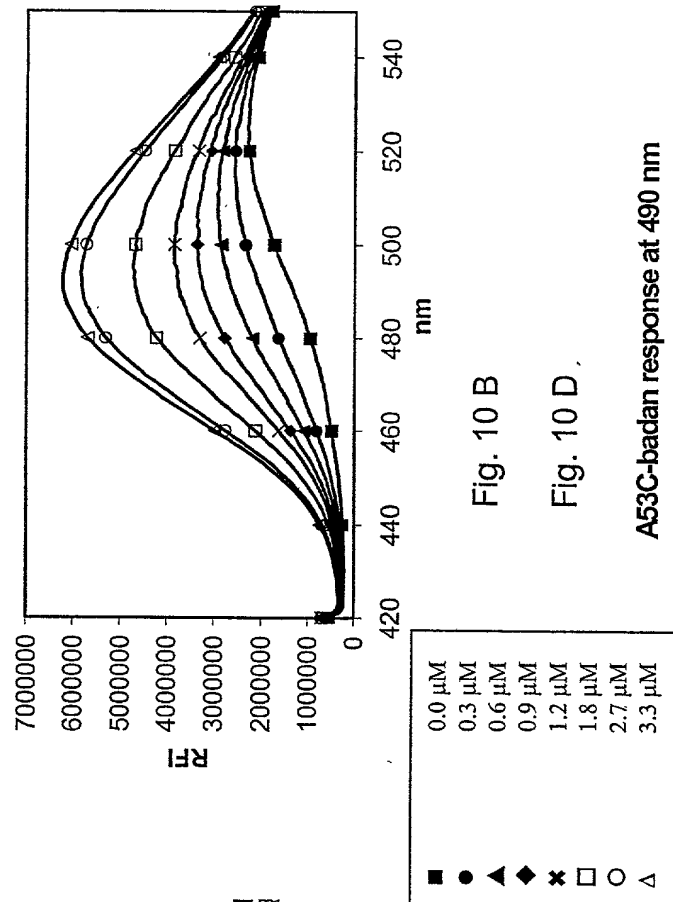
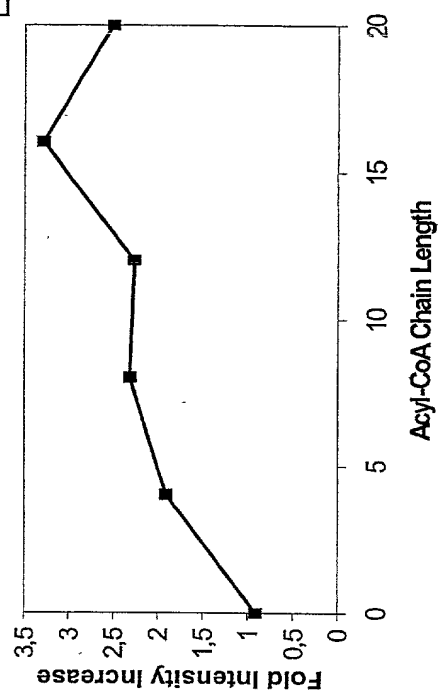


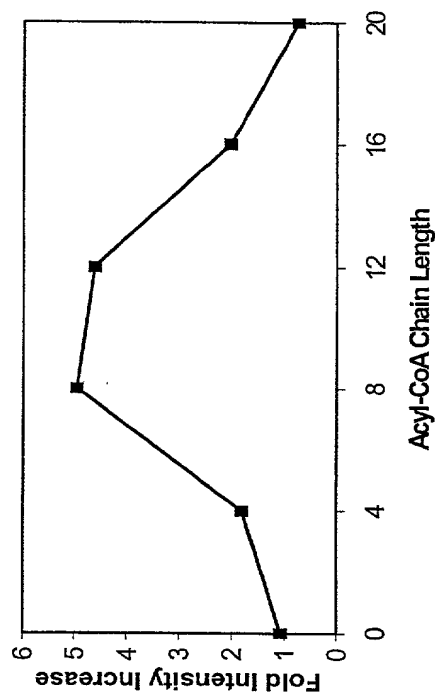
Fig. 10 B

Fig 10 C

M24C-badan response at 470 nm



A53C-badan response at 490 nm



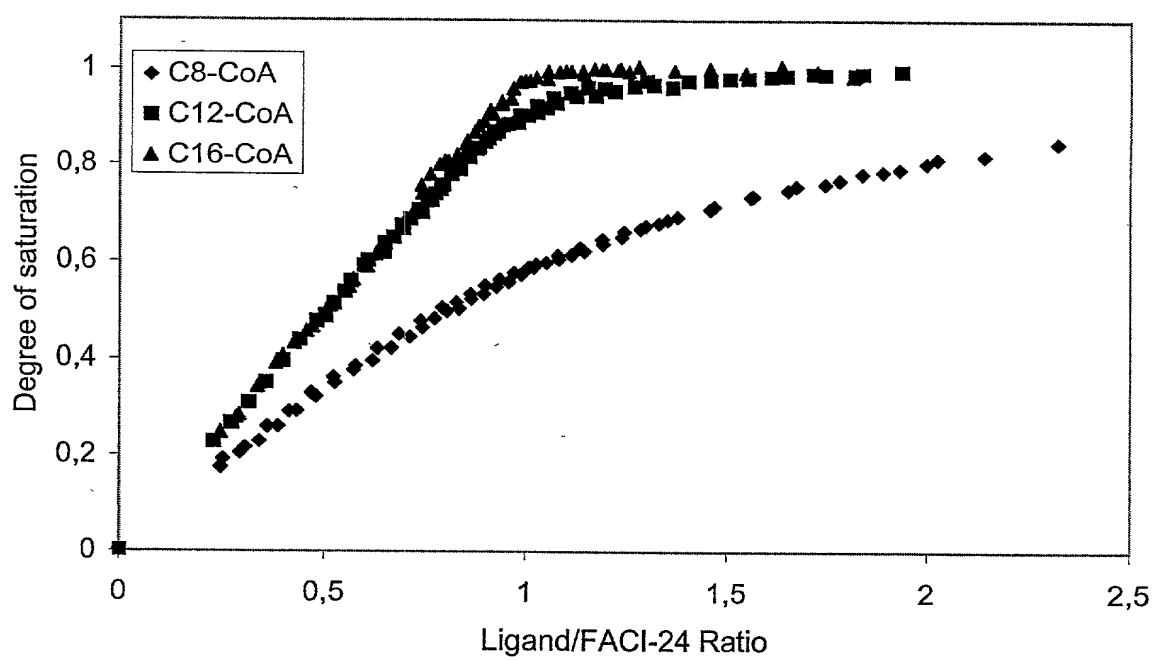


Fig. 11

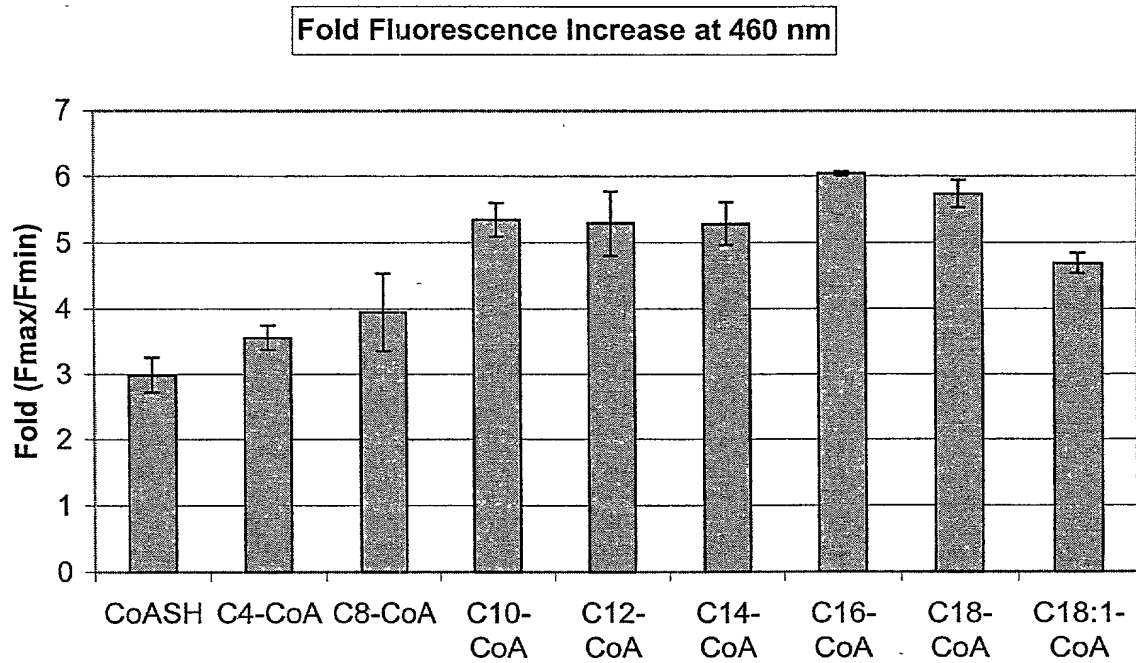


fig. 12

### FA Time Scan

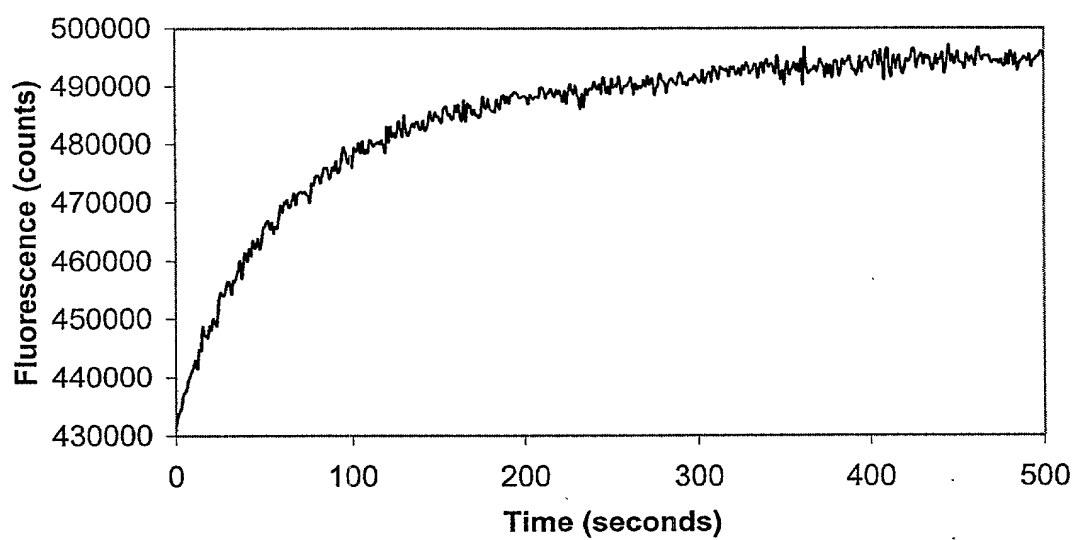


Fig. 13

C16:0 Standard Curve

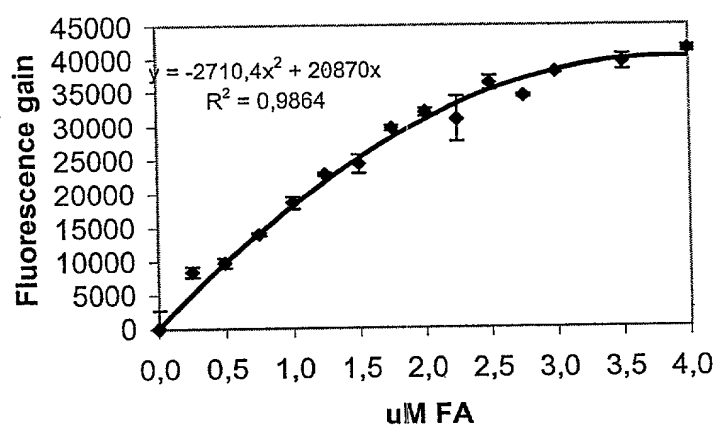


Fig. 14

FACI assay vs. WAKO

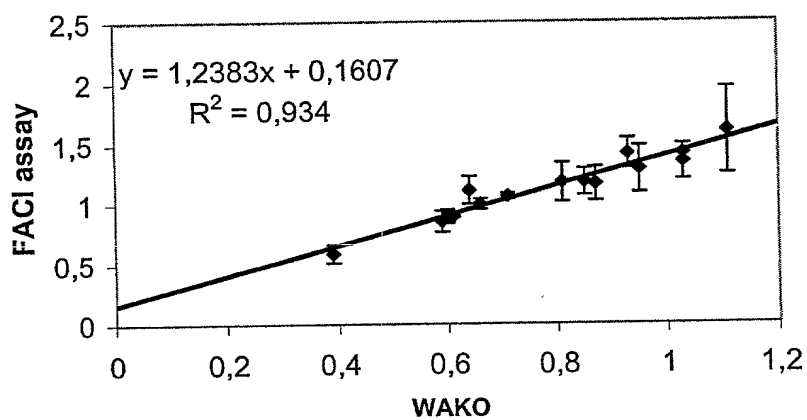


Fig. 15